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EXAMINER	
SINGH, SATYENDRA K	
ART UNIT	**PAPER NUMBER**
1657	

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/537,301	VERVAET ET AL.	
	Examiner	Art Unit	
	Satyendra K. Singh	1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8 and 15-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8 and 15-24* is/are rejected.

7)☒ Claim(s) *18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/25/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's response filed with the office on July 25th 2006 is duly acknowledged.

Claims 1-7 and 9-14 (groups I and III) have been canceled by applicant's current amendments to the claims.

Claims 8, and 15-17 (group II) and newly added claims 18-24 are examined on their merits in this office action.

This is a new ground of rejection necessitated by applicant's amendments to the claims.

Claim Objections

Claim 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form **for failing to further limit** the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 18 (newly added) recites the limitations "wherein said antiflocculant and/or antisedimentation agent is **combination of xanthan gum and maltodextrin**", which fails to further limit the subject matter as presented in the broader claim 8, as currently amended, that recites the limitation "wherein antiflocculant and/or antisedimentation agent **is** xanthan gum ...". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 8, 15-17 and 19-24 are/remain rejected under 35 U.S.C. 103(a) as being unpatentable over Van Bossuyt (US 5,866,167; IDS) in view of Rolf (US 5,804,213; [A]).

Claims are generally directed to a method of promoting wound healing comprising applying the composition of claim 1 (i.e. comprising a non-viable cell lysate and at least one antiflocculant and/or antisedimentation agent such as xanthan gum) to an area of skin in need of said promoting; wherein the wound is at least one of wound and a skin ulcer; wherein said composition is in the form of a dry powder, a suspension, or a solution; wherein said composition is in the form of a gel, a cream, an ointment, or a biocompatible matrix.

The newly added claims 19-24 are generally directed to the method of claim 8, wherein said composition further comprises a buffering agent; wherein the said non-viable cell lysate is a keratinocyte lysate; and wherein said composition further comprises a pharmaceutically acceptable carrier/excipient/vehicle, wherein said vehicle is a dry powder, a suspension, a solution, a gel, cream, ointment, or a biocompatible matrix.

Van Bossuyt (IDS) teaches a method of promoting wound healing comprising applying the composition containing a non-viable keratinocyte cell lysate (see Van Bossuyt, abstract, summary of the invention, example 1, column 18-23, and claims 4, 12, and 20, in particular) to an area of skin wound in an swine model animals, in need thereof; wherein the composition is in the form of a dry powder, a suspension, or a

solution (see Van Bossuyt, claims 3, 11, and 18, in particular); wherein the composition is in the form of a gel, a cream, an ointment, or a biocompatible matrix (see Van Bossuyt, claims 5-8, 13-16, and 21-24, in particular). Van Bossuyt teaches the use of pharmaceutically acceptable vehicles (such as gel, cream, ointment or a biocompatible matrix) to deliver or to apply the said composition onto the skin wounds of the subject in need thereof.

However, a method of promoting wound healing comprising applying a composition containing non-viable cell lysate along with an anti-flocculant and/or anti-sedimentation agent such as **xanthan gum** is not explicitly disclosed by the referenced invention of Van Bossuyt.

Rolf [A] teaches a wound healing composition in the form of a prepackaged dressing including dry particulate solids for forming a pourable, water-based natural or synthetic hydrocolloidal polymeric gel to dress wounds in order to promote wound healing resulting from injury, surgical wounds, or decubitus ulcers (see Rolf, abstract, summary of the invention, columns 7-8, 11-12, and claims, in particular). Rolf teaches the use of xanthan gum as a gelling agent (in order to provide a stable hydrocolloid) for the aqueous composition that can comprise of biologically active components (see Rolf, examples 44-69; column 7, 4th paragraph; and column 8, 2nd paragraph, in particular) in the form of stabilized aqueous/liquid or semi-solid gel matrix that can be freeze-dried in the form of a solid/powder and can be stored for extended period of time.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time this invention was made to modify the composition containing keratinocyte cell

lysate used by Van Bossuyt (in the method of promoting skin wound healing in a subject in need thereof) such that it contains a binding agent such as xanthan gum, as explicitly taught by the referenced invention of Rolf [A].

A person of ordinary skill would have been motivated to use such a hydrocolloid/gelling agent (i.e. xanthan gum) in the composition of Van Bossuyt for use in the method of promoting skin surface wound healing (see the teachings of Van Bossuyt, supra) because Rolf provides the benefits (i.e. stabilization of aqueous formulations, suspensions of biologically active agents that can be freeze-dried in solid form, or alternatively, can be used in the gel form) of using such hydrocolloid/gelling agents.

The person of ordinary skill would have had a reasonable expectation of success when modifying the composition of Van Bossuyt containing a keratinocyte cell lysate by adding xanthan gum as a hydrocolloid/gelling agent (to stabilize said composition in order to be used in the method of promoting wound healing of skin in the subject in need thereof) because Rolf provides the method of incorporating xanthan gum in liquid formulations containing biologically active agents such as growth factors, enzymes, proteinaceous molecules, immunostimulators and other pharmaceutical agents (see Rolf, discussion, supra). Although the composition taught by Rolf [A] does not explicitly state the anti-flocculant and/or anti-sedimentation properties of the xanthan gum used, such properties are in fact inherently used in the referenced composition to produce stabilized wound healing compositions in the form of a hydrocolloidal gel.

Hence, the benefits accrued from combining the xanthan gum (as taught by Rolf) in the composition of Van Bossuyt (containing biologically active material such as aqueous, keratinocyte cell lysate) in order to stabilize said wound healing composition would have been obvious to a person of ordinary skill in the art at the time this invention was made.

Thus, the invention as a whole would have been *prima facie* obvious to a person of ordinary skill in the art at the time the claimed invention was made.

2. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Bossuyt (US 5,866,167; IDS) and Rolf (US 5,804,213; [A]) as applied to claims 8, 15-17 and 19-24, and further in view of Wunderlich et al (US 5,387,415; IDS).

Claim is generally directed to a method of promoting wound healing using a pharmaceutical composition (according to instant claim 8, as amended), wherein said antiflocculant and/or antisedimentation agent is combination of xanthan gum and maltodextrin.

The teachings of Van Bossuyt and Rolf have been discussed above and are further relied upon as they pertain to instant claim 8, in the same manner herein.

However, a method of promoting wound healing using a pharmaceutical composition comprising a combination of xanthan gum and **maltodextrin** is not explicitly disclosed by the inventions of Van Bossuyt and Rolf.

Wunderlich et al teach the use of maltodextrin and/or xanthan gum as skeleleton forming hydrophilic material in the preparation of a pharmaceutical and cosmetic skin composition comprising plant protein hydrolysate (i.e. a non-viable cell lysate) obtained from *Aloe vera* plant (see column 6, lines 10-14, in particular), wherein the composition

is stabilized by the addition of hydrophilic macromolecules (see Wunderlich et al, column 2, line 4, in particular) and polymers such as maltodextrin, in order to avoid the danger of lumping (i.e. to impart antiflocculating and/or antisedimentation property) of the freeze-dried composition. Wunderlich et al teach the fact that macromolecules such as, maltodextrin and/or xanthan gum can be used to stabilize the compositions containing non-viable cell lysate obtained from plants or plant protein hydrolysate.

One of ordinary skill in the art would have been motivated at the time of invention to make this modification in the method of promoting wound healing using the composition as taught by Van Bossuyt in view of Rolf in order to obtain a superior, more stable pharmaceutical composition comprising a non-viable cell lysate such as xanthan gum and maltodextrin, which was suggested by Wunderlich et al (column 6, lines 10-15, in particular) with a reasonable expectation of success. The claimed subject matter fails to patentably distinguish over the state of the art as represented by the cited references. Therefore, the claims are properly rejected under 35 U.S.C. § 103.

Thus, the invention as a whole would have been *prima facie* obvious to a person of ordinary skill in the art at the time the claimed invention was made.

As per MPEP 2144.06, *"It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).*

Response to applicant's arguments

Applicant's arguments filed on July 25th 2006 have been fully considered (as they pertain to previously rejected claims 8 and 15-17) but they are not persuasive.

Claims (as currently amended) are generally directed to a method of promoting wound healing comprising applying the composition to an area of skin, comprising a non-viable cell lysate and xanthan gum (alone or in combination with maltodextrin; see newly added claim 18).

In response to applicant's argument that there is no suggestion to combine the references (see applicant's remarks, page 4, in particular), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Van Bossuyt teaches a method of promoting wound healing using a composition comprising a non-viable keratinocyte cell lysate, wherein the composition can be in frozen, lyophilized, and formulated in various forms (using various additives/excipients/carriers, etc.) suitable for application on skin surface wounds (see Van Bossuyt, column 10, in particular). As discussed supra, Rolf teaches the use and benefits of xanthan gum as a gelling agent (i.e. in order to provide a stable hydrocolloid for aqueous composition comprising biologically active ingredients; see discussion, supra) in a pharmaceutical composition suitable for wound healing (see Rolf, columns 7-8, in particular).

Additionally, applicants seem to argue the "newly discovered" property of xanthan gum as an "antiflocculant and/or antisedimentation agent" (see applicant's

remarks and IDS submitted, pages 5-6, and cited reference in support of this argument, Hodge et al, in particular), which is naturally an effect of xanthan gum in the composition as taught by Van Bossuyt (in view of Rolf) as discussed supra. The gelling phenomenon *per se* involves neither flocculation nor sedimentation. Note that Wunderlich et al appear to recognize the antiflocculant and/or antisedimentation properties of xanthan gum and/or maltodextrin at column 6, lines 10-15. The inclusion of "skeleton forming" agents is seen as avoiding sedimentation and/or flocculation (i.e. promoting stabilization of the pharmaceutical composition comprising non-viable cell lysate), at least to some extent.

As per MPEP 2112 [R-3] "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342,1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

Thus, applicant's argument that xanthan gum and other similar hydrocolloids have been used in the art for other purposes as shown by Hodge et al, to work as flocculants, is not found to be persuasive. In Hodge et al, the material encompasses whole bacterial cells and not a non-viable cell lysate (see *Experimental Methods*, page 259, left column, in particular), which may be cell free, and which is required by the claimed limitations as currently amended by applicants.

Pertinent prior art not relied upon in the rejections

1. Fuisz (US 5,622,717; issued on April 22nd 1997), Ulcer prevention method using a melt-spun hydrogel.
2. Obi-Tabot (US 6,046,160; issued on April 4th 2000), Composition and method for enhancing wound healing.

3. Schacht et al (US 6,132,759; issued on Oct 17, 2000), Medicament containing gelatin cross-linked with oxidized polysaccharides.
4. Remon et al (US 6,010,719; IDS) Freeze-dried disintegrating tablets.

Conclusions

NO claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satyendra K. Singh whose telephone number is 571-272-8790. The examiner can normally be reached on 9-5MF (alternate Fridays OFF).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon P. Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Satyendra K. Singh
Patent Examiner
Art Unit 1651

IRENE MARX
PRIMARY EXAMINER